ONR BAA Announcement # 06-030

BROAD AGENCY ANNOUNCEMENT (BAA)

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposals (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to select for award all, some or none of the proposals in response to this announcement. The ONR reserves the right to fund all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I. GENERAL INFORMATION

1. Agency Name

Office of Naval Research
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995

2. Research Opportunity Title

Interface Ramp Technologies (IRT)

3. Program Name

Seabasing Future Naval Capabilities (FNC) Program: BAS-FY07-02 MPF(F) to Surface Connector Vehicle Transfer

4. Research Opportunity Number -

ONR BAA – 06-030

5. Response Date -

Full Proposals are due by no later than 2:00 p.m. (Local Time) on 1 November 2006.

6. Research Opportunity Description -

Background:

The Seabasing concept has been maturing over the past few years, and a special emphasis has been placed on the development of technologies needed to make it a reality. The Office of Naval Research (ONR) has aligned the Future Naval Capabilities (FNC) programs with the vision of Sea Power 21. Each of these FNCs consists of a number of Enabling Capabilities (EC) that address warfighting capability shortfalls. The Interface Ramp Technologies (IRT) program falls under the Maritime Prepositioning Force Future (MPF(F)) to Surface Connector Vehicle Transfer EC in the Seabasing FNC. The objective of this program is to develop technologies to fill the warfighting capability gap related to *Rapid Closure and Sea Based Operations of Ground Forces.*

Under this BAA, ONR is soliciting proposals for the development of an advanced, lightweight ramp or transfer system capable of transferring or allowing the transfer of wheeled or tracked vehicles between vessels at high sea states. The primary transition target is for the transfer of vehicles between a Large, Medium Speed, Roll-on, Roll-off ship (LMSR) and the new Mobile Landing Platform (MLP) currently being developed by the Naval Sea Systems Command Program Office for Support Ships, Boats, and Craft under the Program Executive Officer, Ships (PMS 325).

The development of the IRT will enable the transfer of wheeled or tracked vehicles during Sea State 4 or higher conditions while reducing the weight of the system by 30 to 50 percent as compared to the current LMSR side port ramp weight.

Program Plan:

The Office of Naval Research envisions a two phase program. It is anticipated that the first phase of the program would consist of multiple awards for the development of a ramp or transfer system design and associated technologies as well as the development and testing of a scale model of the design. In addition to the structural ramp/system, this design would include any active control system(s) used to mitigate/compensate for

motion and any associated algorithms. Phase I is anticipated to last up to 2 years at a value of about $2M for each award.

The government expects to down select to the most promising design for a Phase II award based on the model testing and the likely ability to meet the required capabilities. Phase II will include the development of a detailed design, the manufacturing process, and the development of a full-scale ramp/transfer system prototype for at sea demonstration. Phase II is anticipated to have a period of performance of 32 Months and a cost of approximately $13M.

These timelines are notional. The government wants to minimize the time required for each phase while preserving the objectives and deliverables and avoiding additional cost due to acceleration.

Desired Functions and Capabilities of the Interface Ramp Technologies Prototype:

The Office of Naval Research has identified the following list of required functions and capabilities, the desired quantitative and qualitative performance requirements, and a list of other relevant information for the IRT prototype:

Required Functions

Attachment/Mounting: The ramp or transfer system must be attached, connected or mounted to the sending and/or receiving ship while allowing for a safe and smooth transition of rolling vehicles (wheeled or tracked) between ramp discontinuities (i.e., gaps between sending deck to ramp and ramp to receiving deck).

Deployment/Retraction: The ramp or transfer system must be easily deployed to connect with the receiving ship as well as easily retracted to disconnect from the receiving ship.

Convey/Hold Vehicles: The ramp or transfer system must be capable of either safely conveying or allowing the rolling transfer of wheeled and tracked vehicles from the sending ship to the receiving ship (and visa versa) as well as have the ability to hold the load over an extended period in case of malfunction. Vehicles could include a prime mover/trailer combination with a secondary load or a tracked vehicle.

Stow: The ramp or transfer system must be able to be easily placed in a stowed/secured position to minimize interference with other ship functions and missions.

Temporary/Emergency Detachment: The ramp or transfer system must have the capability to quickly detach from the receiving ship and be placed in a safe (stowed or non-stowed) condition during an emergency break-away or during short periods where the environmental conditions exceed the operating limits.

Communicate Ramp Status to the Operators: The ramp or transfer system must have a ramp monitoring system with the ability to communicate the ramp status to the operators/master to include:

- Ramp motions and ramp angle (if applicable for ramp systems)
- Structural response and loading conditions relative to any system limits
- A safe for operations/caution/not safe for operations indication

Affordability and Maintainability: The ramp or transfer system must be rugged and durable, balance acquisition costs and life cycle costs to be affordable, and not be maintenance intensive.

Quantitative Performance Requirements

Characteristic	Threshold	Objective
Ramp Weight	< 77 Long Ton	< 55 Long Ton
Sea State Capabilities (Note 1) • Deployment/Retraction • Operations (Vehicle Transfer) • Survivability o Attached o Detached (non-stowed) o Stowed/Secured	 SS4 SS4 SS6 SS6 SS8	 High End of SS4 High End of SS4
Considerations Due to Vehicle Characteristics (Note 2) • Minimum Clear Ramp Width • Vehicle Weight Capacity (Heaviest Vehicle Expected)	 18 feet 72 Tons (M1A2) (Abrams Tank)	 144 Tons (2 M1A2s) (2 Abrams Tanks)
Maximum Contact Pressure from Ramp Foot to Ship or Pier	500 psf	
Ship Separation Range Capacity	16 to 25 feet	
Maximum Operable Ramp Angle (Note 3)	12 degrees	> 12 degrees)
Maximum Break-over Angle (Note 4)	15 degrees	
Environmental Conditions • Maximum Operating Temperature • Minimum Operating Temperature • Maximum Operating Humidity • Ice and Snow (Deploy/Retract/Stow)	 130 degrees F - 20 degrees F 100 % Up to 1 inch	
Stowed/Secured Position Shock Qualification	Grade B (or same as surrounding ship structure)	

Notes:

1) All Sea States are per NATO Standardization Agreement (STANAG) 4194.
2) Wheeled or Tracked Vehicle could be a prime mover/trailer combination with a secondary load or tracked vehicle.

3) 12 degrees represents what has been determined as the maximum allowable angle to maintain traction between the vehicles and the ramp deck when exposed to weather. If a capability of greater than 12 degrees is proposed, the offeror must address how the traction issue is solved.
4) There must be sufficient clearance to prevent contact or possible hang-up between the frame or an extension of the frame of a vehicle and the ramp surface. If the break-over angle exceeds 15 degrees, the offeror must address how the vehicle clearance issue is solved.

Additional Qualitative Requirements

- Minimize the time required to take the ramp or transfer system from the fully stowed/secured position to operational (ready to transfer vehicles) position as well as from the operational position to the fully stowed/secured position.

- Minimize the manning required to conduct operations including attachment, deployment, vehicle transfer, recovery, stowage, securing, and maintenance.

- Minimize support equipment required to conduct operations, including attachment, deployment, vehicle transfer, stowage, and maintenance.

- Minimize the three-dimensional stowage requirements.

- The ramp or transfer system including any additional equipment (such as for self-deploying systems) should minimize any adverse impacts on other ship functions including structural impacts.

- The ramp or transfer system shall be configured to maximize throughput.

- Any drivable surface shall allow for sufficient traction of the vehicles (wheeled and tracked) to prevent/reduce slippage.

- Any drivable surface must support the maximum load throughout the entire drivable surface. This includes the expected patch loads from the contact pressure of two adjacent 8.80-inch by 6.51-inch rubber contact pads used on the T158 track blocks of the M1A2 tanks as well as the contact pressure from the wheels of a loaded Rough Terrain Container Handler (RTCH) forklift.

- The ramp or transfer system shall be designed to avoid pooling of liquids.

- The ramp or transfer system must have the ability to remove a disabled vehicle/ prime mover trailer combination/tracked vehicle in a safe and timely manner to clear the ramp for continued operations or in the event of an emergency.

- The ramp or transfer system must not transfer significant thrust force between the two ships.

- Must be able to operate in a marine salt environment. The ramp or transfer system's performance and operational capabilities shall not be affected by temperature shock.

- The ramp or transfer system materials shall be resistant to corrosion, abrasion, fatigue, and UV rays. Flammable materials should be avoided. The ramp or transfer system shall also be resistant to chemical fluids like fuels, hydraulic fluids and lubricating oils. If any non-standard materials are proposed, the general properties of the materials with regard to the above areas shall be addressed in the proposal.

Additional Relevant Information

Notional CONOPS:

- The ramp is to be located/stowed on the MLP, reaching to the LMSR side platform.
- Ship-to-Ship Arrangement is alongside (ship separation of 16 to 25 feet).
- Notional ship speeds will be 5 – 7 kts at best heading.

Relevant MLP and LMSR Characteristics: (Note: The MLP is still under design; therefore, no specific deck layout can be provided. The ramp is expected to be classified as Class Standard Equipment (CSE).)

- Relative Deck Heights (Vertical Separation): up to 15 feet
- Horizontal Separation expected: 16 to 25 feet

Certification Requirements:

Any ramp and/or system would have to be able to meet ABS certification to transition to an acquisition program in the future.

7. Points of Contact -

Questions of a technical nature shall be directed to the cognizant Technical Point of Contact, as specified below:

Science and Technology Points of Contact:

Dr. Paul Hess
Office of Naval Research, ONR 331
875 N. Randolph Street
Arlington, VA 22203-1995
Telephone Number: (703)696-9776
Email Address: Paul_Hess@onr.navy.mil

Questions of a business nature shall be directed to the cognizant Business Point of Contact, as specified below:

Business Point of Contact:

Emily McLaughlin, Code 254
Contract Specialist
875 N. Randolph Street
Arlington, VA 22203-1995
Telephone Number: (703)696-7827
Email Address: mclaugej@onr.navy.mil

8. Instrument Types -

It is anticipated that ONR will award one or more Cost Type Indefinite Delivery Indefinite Quantity (IDIQ) contracts for this effort. Phases I and II will be set up as separate task orders under the IDIQ.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers -N/A

10. Catalog of Federal Domestic Assistance (CFDA) Titles - N/A

11. Additional Information – N/A

II. AWARD INFORMATION

The Navy anticipates awarding one or more contracts to be incrementally funded over a period of 5 years. The Phase I (Task Order 0001) portion of each award is anticipated to be approximately $2M each. Phase II (Task Order 0002) for delivery and demonstration of a full-scale ramp/transfer system is anticipated to be approximately $13M.

III. ELIGIBILITY INFORMATION

The Government encourages teaming arrangements between and among the following groups: domestic and foreign companies, universities and institutions, and U.S. government laboratories; however, awards will be limited to teams which have the capability to produce and test the prototype demonstrator within the United States.

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to bid on this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process -

Full Proposals - The due date for receipt of Full Proposals is 2:00 p.m. Local Time on 1 November 2006. It is anticipated that final selections will be made by 2 January 2007. As soon as the final proposal evaluation process is completed, the Offeror will be notified via email or letter of its selection or non-selection for an award. Proposals exceeding the page limit may not be evaluated.

A Pre-Proposal Industry Day is anticipated to be announced and will take place prior to the proposal submission date.

2. Content and Format of Full Proposals -

The Proposals submitted under this BAA are expected to be unclassified. The Proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

Full Proposal Format – Volume 1 - Technical and Volume 2 - Cost Proposal

- ALL OFFERORS MUST SUBMIT A DETAILED COST PROPOSAL FOR PHASE I AND PHASE II.
- Paper Size – 8.5 x 11 inch paper, also will allow up to 11X17 inch paper for Schedule and/or Design Concept foldouts
- Margins – 1" inch
- Spacing – single or double-spaced
- Font – Times New Roman, 12 point
- Number of Pages – Volume 1 is limited to no more than 60 pages. Volume 2 does not have a page limitation. The Cover Page, Table of Contents, and Resumes are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated.
- Copies – one (1) original, one (1) copy, and one (1) electronic copy on a CD-ROM, (in .PDF format). The copy on CD-ROM should contain one file for Volume I and one file for Volume II. Each volume (including appendices) should be contained in a single file vice segmented files.

Full Proposal Content

Volume 1: Technical Proposal

Cover Page: (not included in page count)

This should include the words "Technical Proposal" and the following:

1) BAA number;
2) Title of Proposal;
3) Identity of Prime Offeror and complete list of subcontractors, if applicable
4) Technical contact (name, address, phone/fax, electronic mail address)
5) Administrative/business contact (name, address, phone/fax, electronicmail address) and;
6) Duration of effort (differentiate Phase I and Phase II)

Table of Contents: (not included in page count)

Statement of Work: A Statement of Work (SOW) clearly detailing the scope and objectives of the program and the technical approach to be taken for all phases, broken out by phase. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award.

Prototype Concept Description: A description of the effort that articulates an understanding of the capabilities desired and how the offeror's proposed technologies will be integrated into the ramp or transfer system to achieve ONR's objectives. Include a description of risk reduction technology development or demonstrations, if any, required prior to preliminary or detailed design.

Project Schedule and Milestones: The proposal should include a detailed listing of the technical tasks/subtasks in Work Breakdown Structure format broken out by phase and month. The proposal should also include a schedule of events and milestones for the proposed program keyed to the work breakdown structure, the fiscal year, and the program phases. Deliverables and program review dates should be included.

Assertion of Data Rights: Include here a summary of any proprietary rights to pre-existing results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. Any data rights asserted in other parts of the proposal that would impact the rights in this section must be cross-referenced. If there are proprietary rights, the Offeror must explain how these affect its ability to deliver research data, subsystems and toolkits for integration. Additionally, Offerors must explain how the program goals are achievable in light of these proprietary limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect. The rules governing these assertions are prescribed in Defense Acquisition Regulation Supplement (DFARS) clauses 252.227-7013,-7014, and -7017. These clauses may be accessed at the following web address: http://farsite.hill.af.mil/VFDFARa.htm. The Government may challenge assertions that are provided in improper format or that do no properly acknowledge earlier federal funding or related research by the Offeror.

Deliverables: A detailed description of the results and products to be delivered for each phase of the program.

Management Approach: A discussion of the overall approach to the management of this effort, including brief discussions of the total organization, use of personnel; project/function/subcontractor relationships; government research interfaces; and planning, scheduling and control practices. Identify which personnel and subcontractors (if any) will be involved in each program phase. Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished Equipment/Hardware/Software/ Information required, by version and/or configuration.

Experience: A description of the experience and qualifications of the offeror, subcontractors, and key personnel relevant to the proposed effort. Specific examples of work accomplished similar in complexity, magnitude and technical content to that proposed should be provided. Brief resumes (not included in page count) of key prime and subcontractor personnel should be included.

VOLUME 2: Cost Proposal

The Cost Proposal shall consist of a cover page and two parts. Part 1 will provide a detailed cost breakdown of all costs for each phase, by cost category and month, especially for Phase I. Part 2 will provide a cost breakdown by task/sub-task, corresponding to the task numbers in the proposed Statement of Work. Each Program Phase must be separately priced. The cost proposal for Phase II will be further definitized during Phase I; however, all offerors need to submit detailed cost proposals for Phase II with their proposals. A more definitized and updated estimate for Phase II costs will be required as a deliverable of the Phase I effort.

Cover Page: The use of the SF 1411 is optional. The words "Cost Proposal" should appear on the cover page in addition to the following information:

- BAA number
- Title of Proposal
- Identity of prime Offeror and complete list of subcontractors, if applicable
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address)
- Duration of effort (separately identify Phase I and Phase II)

Part 1: For each Phase (particularly Phase I), detailed breakdown of all costs by cost category and month. ALL OFFERORS MUST SUBMIT A DETAILED COST PROPOSAL FOR PHASE I AND PHASE II.:

- Direct Labor – Individual labor category or person, with associated labor hours and unburdened direct labor rates
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate)
- Travel – Number of trips, destination, duration, etc.

- Subcontract – A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be requested from the subcontractor at a later date
- Consultant – Provide a consultant agreement or other document which verifies the proposed loaded daily/hourly rate
- Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the Offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.)
- Other Directs Costs, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. (Justifications must be provided when Government funding for such items is sought). Include a brief description of the Offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.)
- Fee/Profit including fee percentage.

Part 2: For each Phase (particularly Phase I), cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

3. Significant Dates and Times-

Anticipated Schedule of Events		
Event	**Date (MM/DD/YEAR)**	**Local Time**
Full Proposals Due Date	11/01/06	2 P.M.
Notification of Selection for Award (Phase I Task Order)*	01/02/07	_____
Contract Awards*	03/20/07	_____

***These dates are estimates as of the date of this announcement.**

4. Submission of Late Proposals –

Any proposal, modification, or revision, that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and

(a) If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(b) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or

(c) It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal, which makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extend to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

NOTE: Due to changes in security procedures since September 11, 2001, the time required for hard-copy written materials to be received at the Office of Naval Research has increased. Thus it is recommended that any hard-copy proposal be mailed several days before the deadline established in the solicitation so that it will not be received late and thus be ineligible for award consideration.

5. Address for the Submission of Full Proposals –

Office of Naval Research,
875 N. Randolph Street
Arlington, VA 22203-1995
Attn: Dr. Paul Hess
Room 272
Telephone Number: (703)696-9776

NOTE: PROPOSALS SENT BY FAX OR E-MAIL WILL NOT BE CONSIDERED.

V. EVALUATION INFORMATION

1. Evaluation Criteria –

The following evaluation criteria apply to the Full Proposals. Proposals will be selected through a technical/scientific decision process. Criteria A-D are listed in descending order of priority. Any sub criteria listed under A-D are of equal importance to each other.

A. Overall scientific and technical merits of the proposal.

1. The soundness of technical concept with regard to meeting the requirements detailed in *Section I.6 – Desired Functions and Capabilities of the Interface Ramp Technologies Prototype*.
2. The offeror's awareness of the state-of-the-art and understanding of scope of the problem and the technical effort needed to address it.

B. Capabilities, facilities, related experience, and past performance of the Offeror and the Offeror's team.

1. The extent the resumes provided in the technical proposal reflect staff knowledge, skills, and experience necessary to successfully develop, test, and demonstrate the prototype as specified in *Section I.6.* of the BAA.
2. The extent the Offeror's proposal describes an effective management approach.
3. The extent, depth, and quality of recent and relevant organizational past performance.
4. The adequacy of the proposed facilities.

C. Schedule and Cost Realism

The objective of this criterion is to establish that the proposed schedule and costs are reasonable and realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. This will be principally measured by cost per labor-hour and number of labor-hours proposed. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for the prototype and limit diversion of funds into overhead.

D. Other Factors

For proposed awards to be made as contracts to any non-small business, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

2. Evaluation Panel -

Government technical experts from the Office of Naval Research and other Federal entities will perform the evaluation of proposals. The Government may use selected non-government personnel or support contractor personnel to assist in the evaluation and administrative functions of any proposals ensuing from this solicitation. Such non-

government personnel will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements –

The North American Industry Classification System (NAICS) Code- the NAICS code for this announcement is 541710 with a small business size standard of 500 employees.

CCR - Successful Offerors not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at http://www.onr.navy.mil/02/ccr.htm.

Certifications – Proposals should be accompanied by a completed certification package which can be accessed on the ONR Home Page at Contracts & Grants. For contract proposals the certification package is entitled, "Representations and Certifications for Contracts."

Subcontracting Plans - Successful contract proposals that exceed $500,000, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award.

2. Reporting and Deliverables -

Specific deliverables should be proposed by the offeror and will be finalized with the technical program officer and the contract specialist. Reports and hardware deliverables that the Navy anticipates for the proposed program are as follows:

Administrative

- Monthly technical and financial status reports.
- Detailed schedule for the total program.
- Quarterly progress review presentation material and record of meeting.

Phase I – Ramp/Transfer System Design and Technology Development

- Lightweight Torsion Tolerant Structure
    - Test Specimen Design & Drawings
    - Test Specimens
    - Material Testing Plan
    - Material Properties Testing Results
- Ramp/Transfer System
    - System Preliminary Design & Drawings
    - FEM Model
    - Modeling and Simulation Results

- Active Control System (if applicable)
  - Preliminary System Design & Drawings
  - Initial Control Algorithms
  - Actuator Effectiveness Evaluations
- Model Testing
  - Structurally accurate model for testing
  - Test Plan
  - Test Data Analysis and Documentation
  - Design Revisions Based on Model Tests
- Refined Phase II Cost Estimate

Phase II – Development of a Full-scale Ramp/Transfer System Prototype

- Lightweight Torsion Tolerant Structure
  - Manufacturing Process Plans
- Ramp/Transfer System
  - System Detailed Design & Drawings
  - Modeling and Simulation Results
  - Interface Requirements as Class Standard Equipment
  - Expected Maintenance Cycles/Required Maintenance
- Active Control System (if applicable)
  - Detailed System Design & Drawings
  - Full-Scale Actuator
  - Actuator Integration with Controls & Sensors
  - Control System Test Plan
  - Control System Testing Results
- Full-Scale Ramp Demonstration
  - Full-Scale Actuator Set
  - Full-Scale Ramp/Transfer System Prototype Demonstrator with Control System
  - In-Port (protected waters) Test Plan
  - In-Port Testing Data Analysis and Documentation
  - At-Sea Test Plan
  - At-Sea Testing Results and Documentation

VII. OTHER INFORMATION

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Each proposer must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. It is the Government's desire to have the contractors purchase the equipment/hardware for deliverable items under their contract. The purchase on a direct

reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Government research facilities and operational military units are available and should be considered as potential government furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for this topic. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain which of these facilities they recommend.

2. Use of Animals and Human Subjects in Research

If animals are to be utilized in the research effort proposed, the Offeror must complete a DoD Animal Use Protocol with supporting documentation (copies of AAALAC accreditation and /or NIH assurance, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. Similarly, for any proposal that involves the experimental use of human subjects, the Offeror must obtain approval from the Offeror's committee for protection of human subjects (normally referred to as an Institutional Review Board, (IRB)). The Offeror must also provide NIH (OHRP/DHHS) documentation of a Federal Wide Assurance that covers the proposed human subjects study. If the Offeror does not have a Federal Wide Assurance, a DoD Single Project Assurance for that work must be completed prior to award. Please see http://www.onr.navy.mi./02/howto.htm for further information.

3. Department of Defense High Performance Computing Program

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S & T and DT & E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at http://www.hpcmo.hpc.mil/.

4. BAA Questions and Answers

During the solicitation period, potential responders will be able to ask questions pertaining to the BAA via the Business Contact referenced in paragraph I.7.

All questions are due no later than 2:00 pm (Eastern Daylight Time) on 17 October 2006. Responses will be posted no later than 24 October 2006.

All questions received and their respective answers will be posted so that all potential bidders can benefit from the information.